

IN THE SPECIFICATION

1. Please amend the first complete paragraph on page 2, from lines 4 thru 6, as follows:

In a mobile terminal primarily for voice communication, an additional function, such as an alarm, is implemented only upon input of the user's demand. Therefore, the mobile terminal does not offer enough convenience to the user who wishes to implement such an additional function.

2. Please amend the first complete paragraph on page 3, from lines 9 thru 13, as follows:

Accordingly, the present invention has been made to solve the above-mentioned problems occurring in the art. It is, therefore, an object of the present invention to provide a multi-purpose hybrid terminal and a process for preparing, during one mode, a function to be performed in another mode and informing a user of the completion of the preparation, thereby enabling the user to conveniently use the function, without much time delay.

3. Please amend the three consecutive paragraphs on page 4, from lines 3 thru 13, as follows:

It is still yet another object to provide a multi-purpose hybrid terminal and process that ~~informs~~ inform a user during the pendency of one operational mode that the loading

of a function selected by the user has been completed, and that the function is available to be performed during a different operational mode.

It is also an object to provide a multi-purpose hybrid terminal and process that, without interruption of a current operational mode, responds to a user's instruction by completing the operational availability of a function usable during a different operational mode.

It is a further object to provide a multi-purpose hybrid terminal and process that, without interruption of a current operational mode, ~~responds~~ respond to a user's instruction by initiating the preparation of a function selected by the user, and that are usable during a different operational mode, and signaling the completion of the preparation by indicating the operational availability of a function.

4. Please amend the second paragraph on page 7, from lines 3 thru 7, as follows:

In the system of FIG. 1, mobile telephone 1 downloads game contents as files from server [[1]] 2 and stores the files in a cache memory. Mobile telephone 1 outputs the files to its display section in the order in which they were stored, thereby featuring animation. If such files have been stored in the cache memory in advance, however, instead of being downloaded from the server 2 later as needed, the user will not have to wait as long for the output of the stored files to the display section.

5. Please amend the last paragraph on page 7, from lines 14 thru 21, as follows:

This game deck phone 1 is a hybrid mobile terminal that uses the GSM/GPRS (that is, Global System for Mobile/General Packet Radio Service) with a gaming device function integrated into the terminal. When the game function is selected, the game phone 1 is switched from a game mode to a phone mode. Also, game contents stored in a multimedia memory card within the terminal are read out to a main flash memory of the terminal. A script-based game program embedded in a general mobile terminal is stored as a small file in an internal memory of the terminal. Such a small file game program can be implemented after fast memory loading. Memory loading and game mode setting however, take too long to implement a data-rich game program which has a large file size.

6. Please amend the four consecutive paragraphs on page 8, from lines 1 thru 13, as follows:

If a user wishes to use an additional function (e.g., a game) on a hybrid mobile terminal, such as a game phone, the user must first press the keys of the keypad numerous times, while simultaneously continuously watching the display of the terminal.

FIG. 3 shows an array of exemplary display screens bearing messages that could sequentially be displayed on mobile terminal [[1]] until a selected game is started after a change in mode from phone to gaming device.

The mobile terminal confirms with screen 101 whether the user wishes to change

the current mode from a phone mode to an additional function mode such as a game mode with screen 103, ~~the~~. The mobile terminal allows the user to select a game stored in the memory card by pressing additional keys.

Screens 105 and 107 show messages that are sequentially displayed while a game is being read out and written into the memory. The memory loading process is indicated on screen 105, and the completion of memory loading is subsequently indicated by the message appearing on screen 107.

7. Please amend the last paragraph on page 8, from lines 18-21, as follows:

If a function ~~[[need]]~~ needs to be repeatedly implemented whenever a particular condition is met, the user may feel inconvenienced because of the need to repeatedly press the keys in order to completely set-up the game function sought by the user, with the processes shown in FIG. 3, and by the subsequent wait until the memory completely reads out the data for the selected game function.

8. Please amend the two paragraphs on page 9, from lines 4 thru 21, as follows:

When turned on, the mobile terminal is initially set in the phone mode at step 121. At step 123, the mobile terminal confirms whether the user has input a demand for a mode change. If the user has input such a demand, the mobile terminal will terminate its phone mode at step 125, and will enter into the additional function mode that has been

selected by the user at step 127. At step 129, a corresponding program is loaded. At step 131, the mobile terminal determines whether the user has made a key input. Upon detection of such a key input, the mobile terminal will implement the program at step 133. At step 123, a message as shown in screen 101 of FIG. 3[[,]] can be displayed. At step 129, messages as shown in screens 105 and 107 of FIG. 3 can be displayed. Also, in step 133, messages as shown in screens 109 and screen 111 of FIG. 3 can be displayed.

These foregoing processes are not particularly amenable to execution in a hybrid terminal having an important feature in mobility. The Mobile Game Interoperability Forum, (often referred to as MGIF, <http://www.openmobilealliance.org/mgif/>) emphasizes that game phone users tend to demand especially fast accessibility to any functions or services because of the mobile environment and the limited capacity of the power supply of the mobile terminal. Most users carry their mobile terminal at all times and quite regularly use particular functions. Therefore, I have found that it ~~would be~~ is necessary to develop hybrid mobile terminals that promptly meet the users' demand for the initiation as well as the implementation of such functions. In other words, I have discovered a need for a method ~~[[for]]~~ of enabling a prompt access to a desired function.

9. Please amend the paragraphs bridging pages 10 and 11, from line 8 onn page 10 thru line 17 on page 11, as follows:

An RF/analog section 155 performs wireless transmission and reception, and processes baseband signals. A digital signal processor ("DSP") 159 encodes and

compresses speech. In a keypad 163 bearing a plurality of alphanumeric keys, selection keys and functional keys, displayed for easy manipulation by a user, are provided to enable user interface with telephone 141; the keys are mapped according to the operation modes of the terminal. A display section 157 provides a variable visual representation of the operation states of the mobile terminal. The displayed states vary, depending on the modes of the terminal 141. Under the control of a communication microprocessor MPU 165A, display section 157 can be used as an alarm to advise the user about the completion of at least one task for implementing a function. A memory 161A may be constructed with a read only memory (ROM) for storing programs for implementing various functions with related data and a random access memory (RAM) for temporary storage of data.

Communication microprocessor MPU 165A includes a monitoring section 165a that monitors a condition representative of the progress of the terminal toward satisfaction of the user's demand for activation of an additional function while the terminal 141 remains continuously in the phone mode, a first execute section 165b for performing at least one task to use the additional function when the condition is determined to have been met, a mode changing section 165c for changing the operational mode of the terminal from phone to the additional function, and a second execute section 165d for implementing the additional function such as a game selected by the user.

A multimedia card reader 147 is a peripheral device that is able to read a removable multimedia card that stores a game program (for example, an MultiMedia Card

(MMC), a ~~[[()]]~~ Compact Flash (CF) or a Secure Digital (SD) card) that is not separately shown, in order to read and enable terminal 141 to write into memory ~~[[161]]~~ 161A, and to implement an additional function such as an algorithm for a video game. If the hybrid terminal 141 is a TV phone or radio frequency identifier (*i.e.*, RFID) tagged phone, another peripheral, such as a TV receiver or an RFID tag, should be provided. A basic RFID system is constructed with three components, an antenna or coil, a transceiver (with decoder), and a transponder (RF tag) electronically programmed with unique information. The antenna emits radio signals to activate the tag, and to read and write data to it. Antennas are the conduits between the tag and the transceiver, which controls the system's data acquisition and communication. The electromagnetic field produced by an antenna can be constantly present when multiple tags are expected continually. If constant interrogation is not required, the field can be activated by a sensor device.

10. Please amend the paragraph bridging pages 11 and 12, from line 21 on page 11 thru line 3 on page 12, as follows:

Unlike the terminal of FIG. 5, game phone ~~[[141]]~~ 141' of FIG. 6 may be constructed with a first processing section 145 (for example, a communication processor), a second processing section 143 (for example, a game processor), and a dual port memory 153 for data exchange between the two processing sections 143, 145.

11. Please amend the paragraphs bridging pages 12 and 13, from line 7 on page 12 thru line 12 on page 13, as follows:

Communication microprocessor 165 incorporated into communication processor [[165]] 145 includes a monitoring section 165a that monitors a condition representative of the progress of the terminal toward satisfaction of the user's demand for activation and implementation of an additional function while telephone [[141]] 141' is being continuously held in the communication mode, an execute section 165b for performing at least one task to use the additional function selected when the condition has been met, and a mode changing section 165c for changing the operational mode from phone to the operational mode corresponding to the user's selection of that additional function. Execute section 165b is identical to first execute section 165b in FIG. 5.

Communication microprocessor MPU 165 performs at least one task for using the additional function solely, or alternatively together with a game microprocessor MPU 151 incorporated into game processing section 143. When the precedent condition to satisfaction of the user's demand has been met, the mobile terminal 141' informs the user that a determination has been made that the condition has been met, so that the user can select a mode change in step 185 in FIG. 7 to implement the additional function. Although not shown in the drawings, in an alternative configuration, terminal [[141]] 141' can also be configured for implementing an automatic change of mode, even without the user's selection of a mode change, whenever the user selects a function during the course of one operational mode that is to be executed during a different operational mode.

When the user inputs a demand for implementing an additional function in step 173 of FIG. 7, mobile terminal [[141]] 141' can be set to automatically change its operational mode later, when the fixed condition is met. Alternatively, the terminal 141' can be programmed to automatically change the mode by default, regardless of the user's selection; that is, step 185 in FIG. 7 can be skipped.

Game processor 143 includes a Main Processor Unit (MPU) 151, for example, 104MHz ARM925 MPU [[151]] from Texas Instruments, Inc., which is a main arithmetic unit for controlling a game function, memory 149 for storing data according to the game algorithm, and multimedia card reader 147.

Part, or all, of the functional elements of ~~communication microprocessor~~ MPU 165, for example, monitoring section 165a, execute section 165b and mode changing section 165c, may be included in the game MPU 151.

12. Please the last paragraph on page 13, from lines 16 thru 21, as follows:

When turned on, terminal 141 or 141' may initially be set in the phone mode at step 171. At step 173, terminal 141 or 141' detects whether a demand has been input by a user for implementing a function. The user can input the demand by various methods, such as with a series of key inputs through manual manipulation of one~~[[,]]~~ or more~~[[,]]~~ of the several keys borne by keypad 163, in response to the visual and ~~textural~~ textual prompts provided by the visual images projected by display section 157, with, for example, screen 101 or 103, as shown in FIG. 3.

13. Please amend the first paragraph on page 14, from lines 1 thru 15, as follows:

If an input of the user's demand is detected, mobile terminal 141 or 141' will store the demand in memory 161, 161A at step 175. At step 177, mobile terminal 141 or 141', while remaining in the phone mode, determines whether a condition satisfying the user's demand has been met. For example, if the condition is a fixed time, the terminal will monitor the condition by checking a timer. If the condition relates to a place, the terminal will obtain its positional data using a GPS receiver, an RFID (Radio Frequency Identification) reader that is[[,]] either an interrogator or a tag such as a transducer, not separately shown in FIG. 5 or 6, and the communication microprocessor MPU 165 or 165A. Also, the terminal will determine whether the positional data coincide with the condition satisfying the user's demand; that is, in step 177, terminal 141 or 141' makes a determination [[of]] as to whether the positional data received from such external sources, such as a global positioning receiver (*i.e.*, a GPS receiver) or a radio frequency identification indicator or tag (*i.e.*, a RFID tag), either coincide with[[,]] or fall within a range[[,]] established by the condition corresponding to the user's demand. Alternatively, such external sources, such as a global positioning receiver or a radio frequency identification indicator or tag, may be incorporated into the terminal. Various conditions, such as a time, a place, or a geographical or physical location, or a combination thereof, can be set as a condition precedent.

14. Please amend the third paragraph on page 15, from lines 9 thru 15, as follows:

Referring to FIG. 8, screens 201 and 203 show display section ~~[[175]] 157~~ in the phone mode of terminal 141. Display section ~~[[175]] 157~~ in the phone mode ~~with screen 203~~ displays a message with the text "GAME READY" ~~appears~~ on screen 203 to inform the user of the game mode setting (*i.e.*, loading of the algorithm for execution of the selected game) in progress to load and activate the game. Display section ~~[[175]] 157~~ lastly displays a message on screen 205 with the text "PLAY BALL!!!", to inform the user of the completion of the game mode setting, thereby indicating to the user that the selected game is operationally available for the enjoyment of the user.

15. Please amend the paragraphs bridging pages 16 and 17, from line 11 on page 16 thru line 17 on page 17, as follows:

As described above, the multi-purpose hybrid terminal constructed according to the present invention can prepare in one mode, that is, during the current mode, a function to be performed during another mode, and inform the user of the completion of the preparation, thereby enabling the user to conveniently use a desired function~~[[,]]~~ without significant delay of time, and without interrupting the operational availability of the current mode.

If a user of a game phone wishes to regularly implement a game program at a fixed time, for example, at rush hour, the user should, in advance, store the condition for

implementing the game program. The game phone keeps monitoring its state to determine whether the condition for satisfying the user's demand has been met. Also, the game phone performs a series of tasks in order to expedite the user's fast access to the game.

If a user of a TV phone wishes to watch a news program broadcasted at a fixed time in a particular region, that is, within a fixed place, in consideration of the regional characteristic of TV broadcasting, and inputs the fixed time and geographic or fixed location corresponding to the user's designation of a region or place as one or more conditions precedent to display of the program, the TV phone will perform a series of tasks requiring key manipulation, such as image quality adjustment and selection of a channel on which the news program is broadcasted. The TV phone will inform the user when the preparation for implementing the TV function is completed so that the user can promptly watch the desired news program at the time selected by the user, without much delay of time.

The present invention is also applicable to a hybrid terminal with an RFID tag and an automobile with an RFID reader. When a user having an RFID tagged terminal takes a car, an RFID reader mounted in the car reads the RFID tag of the terminal and commands the RFID tag to perform one or more preset functions. The RFID then ~~transfer~~ transfers the command to the terminal to perform the function. For example, one preset function can be "a change to hands-free mode." The RFID reader senses when the user rides the car. The RFID commands the terminal to change in mode from a normal mode to a

hands-free mode through the detection of the RFID tag. Accordingly, the terminal changes its mode to the hands-free mode, and informs the user about the change of operational mode according to the present invention.